ACI Communications, Inc.

Serving the CATV Industry Since 1986

DSIM®

Digital Station Intelligence Manager

Intelligent Automatic Gain Controllers

The Digital Station Intelligence Manager (DSIM) is a next generation gain control module with comprehensive yet extremely cost effective local station diagnostics on board. In the DSIM AGC module the gain control function allows for any QAM or analog carrier from channels 52 to 142 to be selected as pilot or can be set to operate in the thermal AGC mode with 9, 18 and 27 dB of cable.

The DSIM controller is used to set the DSIM module's pilot channel and to change into the different operational modes during the amplifier setup. The bi-colored blue and red LED indicator's blinking patterns will denote the current optional mode setting.

The DSIM AGC modules are simple to use, reliable, power efficient, cost effective, and an augmentation to the OSP maintenance team's maximum uptime program, the DSIM is the choice for coaxial plant life extensions for the next decade of all digital services.

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Features:

- The DSIM-A is a direct drop-in replacement for conventional analog AGC module for ACI's SDA series amplifiers.
- The DSIM-GI is a direct drop-in replacement for conventional analog AGC module for Motorola® /GI BLE, MB and BT amplifiers.
- The DSIM-SG is a direct drop-in replacement for conventional analog AGC module for Scientific Atlanta® GainMaker® amplifiers.
- The DSIM-SS is a direct drop-in replacement for conventional analog AGC module for Scientific Atlanta® System Type 1, 2 & 3 amplifiers.
- The DSIM-MV is a direct drop-in replacement for conventional analog AGC module for Phillips®/C-cor® /Magnavox® GNA & TNA amplifiers.
- The DSIM-JD is a direct drop-in replacement for conventional analog AGC module for Jerold® JLX Line Extender amplifiers.
- DSIM is self-calibrating and auto aligning. Proper control loop levels are set internally by microcontroller. The tech is notified by LED indicator when alignment is complete
- Up to 40 days of data can be downloaded with either Windows, Apple or Android based products and contains enough detail and ease of readability to take the guesswork out of analysis.
- Pilot frequency settings can be reprogrammed as needed with the use of the key coded controller
- Pilot modulation types: QAM, NTSC analog or CW (set by controller)
- 9 dB wide gain control range & 6 MHz center frequency bandwidth
- For aerial installations the DSIM may also be set into the thermal AGC mode with cable sections of 9, 18 & 27 dB.
- The on-board intelligence of the DSIM keeps the station gain on target even during abnormal events, such as loss of pilot and upon return from power outages. In the event that the pilot is lost the DSIM will change into the thermal AGC mode, and then once the pilot is recovered will automatically change back into the SPAGC mode of operation.
- The DSIM AGC module furnishes the outside plant maintenance team with an on-board diagnostic tool set unprecedented in the industry. The DSIM status LED gives maintenance techs an immediate visual indication of the unit's:
    - AC power on (any status light)
    - 24 volt line status (low, high, ripple high)
    - Pilot tracking status (pilot in range, pilot lost)
    - Station temperature status (normal, hot)
    - Operational mode (MGC, AGC, or TGC)
    - Pilot channel number in SPAGC mode
    - Upfront dB of cable setting in TGC mode

Specifications -DSIM A
ACI SDA/ALX

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-A)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
Nominal Insertion loss	Loss @ 1002 MHz	dB	6.25	At room temp.
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	86.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.4 X 1.18 X 0.79 (112 x 30 x 20)	

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Specifications -DSIM GI
Motorola® GI, BT, MB and BLE

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-GI)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	71.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.6 X 1.07 X 0.69 (116 x 27.2 x 17.5)	

Specifications -DSIM MV
Magnavox® GNA, TNA, Diamond Line 3

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-MV)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
Nominal Insertion loss	@ 750 / 870 /1002 MHz	dB	1.0 / 1.1 / 1.2	At room temp.
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	72.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	2.0 X 2.9 X 0.53 (50.8 x 73.7 x 13.5)	

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Specifications -DSIM SG
Scientific Atlanta® GainMaker® amplifiers

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-SG)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	10 (Max.)	
Gain Control Accuracy		dB	± 0.5	
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	15	Typical
Input Voltage range	DC	Volt	14 (Min.), 16 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	110.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	2.0 X 1.0 X 0.94 (50.8 x 25.4 x 23.9)	

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Specifications -DSIM SS
Scientific Atlanta® System Type 1, 2 & 3

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-SS)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Variable Equalizer	Interstage EQ	dB	0-12	Set by controller
Gain Control Accuracy		dB	± 0.5	
Nominal Insertion loss	@ 750 / 870 /1002 MHz	dB	8.0	At room temp.
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	85.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	5.4 X 0.55 X 1.33 (137.2 x 14.0 x 33.8)	

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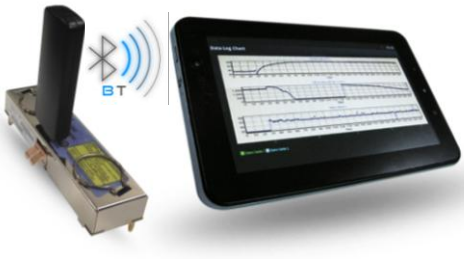
Specifications -DSIM JD
Jerrold® JLX Line Extenders

ACI Communications, Inc.			Digital Station Intelligence Manager (DSIM-JD)	
PARAMETERS	CONDITIONS	UNITS	SPECIFICATION	NOTES
RF Specifications				
AGC mode operation				
Control type	Single pilot channel		Auto Gain Control	
Pilot channel frequency	NTSC channels		Fully Agile selection (default at MGC mode)	Set by controller
Channel frequency bandwidth		MHz	6	
Pilot modulation type			QAM, NTSC analog or CW	Set by controller
Gain control Range	System compensation input change -6/+3 dB @ 1002 MHz	dB	9 (Max.)	
Gain Control Accuracy		dB	± 0.5	
TGC mode operation				
Cable dB length Options	Embedded function	dB	9, 18 or 27 dB	
General Specifications				
Operating Power Supply				
Input Voltage	DC	Volt	24	Typical
Input Voltage range	DC	Volt	18 (Min.), 28 (Max.)	
Power Consumption		Watt.	3.0 (Max.)	
Current Draw		mA	72.0 (Max)	
Environmental and Mechanical				
Operating Temperature		ºF (ºC)	-40 to +140 (-40 to +60)	
Storage Temp.		ºF (ºC)	-40 to +185 (-40 to +85)	
Relative Humidity		RH	95%	No condensation
Dimension	(W x D x H)	In, (mm)	4.6 X 1.07 X 0.69 (116 x 27.2 x 17.5)	

Accessories

DSIM Controller:

The universal DSIM controller is a smart tweaker tool that is used to set the pilot channel or thermal AGC dB cable settings in the DSIM AGC modules. The bi-colored blue and red LED indicator's blinking patterns denote the current operational mode setting.



DSIM Tablet & Bluetooth Dongle:

The tablet or smart phone Android based software allows customers extended access to the internal setup parameters and analysis of real time or data stored in the DSIM AGC module via a blue tooth wireless connection.

DSIMC Software:

The DSIMC software program allows the use a laptop computer to access the extended DSIM setup parameters and analysis of real time or the stored data in the DSIM AGC module. ACI offers a cable assembly P/N 240327-01 that makes the connection from the laptop to the DSIM module.

DSIM Interface Cable:

The DSIM-GI, SG, JD & MV modules use an interface cable assembly P/N 240328-01 to make the connection from the DSIM AGC module to the controller, dongle, or DSIM laptop cable assembly.

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